## ACTA BOTANICA NEERLANDICA

Published by the

KONINKLIJKE NEDERLANDSE BOTANISCHE VERENIGING

(Royal Botanical Society of the Netherlands)

Volume XIX

U. of ILL. LIBRARY

JUL 26 1971

CHICAGO CIRCLE

1970

PRINTED BY H. VEENMAN & ZN. N.V. - WAGENINGEN



## CONTENTS

G. G. J. Bange and F. van Iren, The absorption of thallium ions by excised	
barley roots	646
G. W. M. Barendse, A. S. Rodrigues Pereira, P. A. Berkers, F. M. Dries-	
SEN, A. VAN EYDEN-EMONS, and H. F. LINSKENS, Growth hormones in	
pollen, styles and ovaries of Petunia hybrida and of Lilium species	175
G. J. H. BENNINK, R. VAN DEN BERG, H. J. KOOL and D. STEGWEE, Flower-	
ing in Lemna minor	385
C. C. Berg, New taxa and combinations in the genus Brosimum (Moraceae)	326
C. VANDEN BERGHEN, Esquisse d'une description botanique de l'Ardenne.	216
O. H. BLAAUW and G. BLAAUW-JANSEN, The phototropic responses of	
Avena coleoptiles	755
O. H. BLAAUW and G. BLAAUW-JANSEN, Third positive (C-type) photo-	
tropism in the Avena coleoptile	764
G. M. M. Bredemeijer, Glutamate dehydrogenase activity in crude plant	
extracts	445
G. M. M. Bredemeijer, Glutamate dehydrogenase in styles and pollen of	
Petunia hybrida	481
F. J. Breteler, The African Dichapetalaceae. II. Three new species from	
West Africa	7
E. A. Britikov, J. Schrauwen and H. F. Linskens, Proline as a source of	
nitrogen in plant metabolism	515
A. C. BORSTLAP, Antagonistic effects of branched chain amino acids on the	
growth of Spirodela polyrhiza (L.) Schleiden	211
A. M. CORTEL-BREEMAN and C. VAN DEN HOEK, Life-history studies on	
Rhodophyceae I. Acrosymphyton purpuriferum (J. Ag.) Kyl.,	265
T. A. Davis, Fibonacci numbers for Palm foliar spirals	249
J. VAN DIE, P. LEEUWANGH and SYTA M. R. HOEKSTRA, Translocation of	
assimilates in Fritillaria imperialis L. I. The secretion of <sup>14</sup> C-labelled	
sugars by the nectaries in relation to Phyllotaxis	16
J. VAN DONSELAAR, Floristic and ecological data on the lianes of the	
Brokopondo district, Surinam	287
J. DULLAART, The bioproduction of indole-3-acetic acid and related com-	
pounds in root nodules and roots of Lupinus luteus L. and by its rhizobial	
symbiont	573
J. DULLAART and LUCIE I. DUBA, Presence of gibberellin-like substances	
and their possible role in auxin bioproduction in root nodules and roots	
of Lupinus luteus L	877
J. H. VAN EMDEN, Alternaria phragmospora nov. spec.	393
G. Engelsma, A comparative investigation of the control of phenylalanine	
ammonia-lyase activity in gherkin and red cabbage hypocotyls	403
H. P. Fuchs, Ecological and palynological notes on Pelliciera rhizophorae	884
n. r. ruchs, Ecological and paryhological notes	

TH. W. J. GADELLA, Chromosome numbers of some Angiospermae collected	
Company and the Ivory Coast II	431
W GAMS und I GRINBERGS. Ascoidea corymbosa n. spec., ein neie-	
"halisher Dilg im Rest von Araucaria araucana	794
P. I. HELMSING and G. W. M. BARENDSE, Incorporation of UDP-galactose-	
14C by Spinach chloroplasts	567
F HENNIPMAN Flectron and light microscopical observations on the perine	
of the spores of some Bolbitis species (Filices)	671
E. EL HINNAWY and D. STEGWEE, The growth responses of excised tomato	
roots to coconut water	821
C. VAN DEN HOEK and A. M. CORTEL-BREEMAN, Life-history studies in	
Rhodophyceae II. Halymenia floresia (Clem.) Ag	341
C. VAN DEN HOEK and A. M. CORTEL-BREEMAN, Life-history studies on	
Rhodophyceae III. Scinaia complanata (Collins) Cotton	457
JURINA J. HOFSTRA and T. KOCH-BOSMA, Organic phosphate in ammonium-	
and nitrate-fed tomato plants	546
JURINA J. HOFSTRA and T. KOCH-BOSMA, Some aspects of the leaf nodule	
symbiosis in Ardisia crispa	665
S. JAGER and G. W. F. H. BORST-PAUWELS, The kinetics of the inhibition of	
anaerobic phosphate uptake by yeast caused by the lower fatty acids and	
by 2,4-dinitrophenol	147
M. G. H. Janssen, Indoleacetic acid oxidase, peroxidase and polyphenol-	
oxidase of Pea roots	73
	109
M. G. H. Janssen, The influence of the effluent and of the temperature on	
the separation of indoleacetic acid oxidase of Pea roots on Sephadex	
	419
S. M. JUTTE and A. B. WARDROP, Morphological factors relating to the	
degradation of wood fibres by cellulase preparations	906
C. M. Karssen, The light promoted germination of the seeds of Chenopo-	
dium album L. III. Effect of the photoperiod during growth and develop-	
ment of the plants on the dormancy of the produced seeds	81
C. M. KARSSEN, The light promoted germination of the seeds of Chenopo-	
dium album L. IV. Effects of red, far-red and white light on non-photo-	
blastic seeds incubated in mannitol	95
C. M. KARSSEN, The light promoted germination of the seeds of Chenopo-	
dium album L. V. Dark reactions regulating quantity and rate of the	
response to red light	187
C. M. KARSSEN, The light promoted germination of the seeds of Chenopo-	
dium album L. VI. Pfr requirement during different stages of the germina-	
tion process	297
R. B. KNOX, H. G. DICKINSON and J. HESLOP-HARRISON, Cytochemical	
observations on changes in RNA content and acid phosphatase activity	
during the meiotic prophase in the anther of Cosmos bipinnatus Cav.	1
JIFKE KOEK-NOORMAN, A contribution to the wood anatomy of the Cin-	

choneae, Coptosapelteae and Naucleeae (Rubiaceae)	154
P. KOOIMAN, The occurrence of iridoid glycosides in the Scrophulariaceae .	329
C. Kollöffel, Alcohol dehydrogenase activity in the cotyledons of peas	32)
during maturation and germination	539
C. Kollöffel and J. V. Sluys, Mitochondrial activity in pea cotyledons	557
during germination	503
ALIE KOOPMANS, Preliminary notes on crosses between Papaver dubium L.	303
(2n = 42) and P. rhoeas L. $(2n = 14)$	522
D. R. Kreger and J. van der Veer, Paramylon in a Chrysophyte	401
Z. Kulescha, Influence reciproque de quelques substances de croissance	401
dans la culture de tissu de topinambour (Helianthus tuberosus L. var.	
Violet). I. Le comportement du milieu de culture	627
M. A. M. Lacor, Some physiological and morphogenetic aspects of flower-	03/
ing of Spirodela polyrhiza (L.) Schleiden	52
ANDRÉ LAWALREE, Definition, aire et mode de dissemination de Dichondra	53
micrantha Urban (Convolvulaceae)	717
L. J. G. VAN DER MAESEN, Primitiae Africanae VIII. A revision of the	/1/
genus Cadia Forskål (Caes.) and some remarks regarding Dicraeope-	
talum Harms (Pap.) and Platycelyphium Harms (Pap.)	227
C. A. VAN DER MAST, Separation of IAA degrading enzymes from Pea	221
roots on columns of polyvinylpyrrolidone. II	1.41
C. A. VAN DER MAST, Isoelectric focusing of indoleacetic acid degrading	141
	262
enzymes from Pea roots	303
C. A. VAN DER MAST, The presence of membrane-bound IAA degrading	
protein-complexes in homogenates of Pea roots and the manner of	552
attachment to these membranes	333
C. A. VAN DER MAST, The inhibiting effect of caffeic acid on the enzymatic	650
degradation of IAA is exerted via the non-IAA degrading peroxidases	039
C. A. VAN DER MAST, The influence of membrane-bound peroxidases on	
the degradation of IAA by the specific IAA degrading protein complexes	727
in homogenates of pea roots	121
A. D. J. MEEUSE, The descent of the flowering plants in the light of new	
evidence from phytochemistry and from other sources. I. General discus-	61
sion	01
A. D. J. MEEUSE, The descent of the flowering plants in the light of new	
evidence from phytochemistry and from other sources. II. Suggestions	133
Tot a mototaxonomic major classification	155
K. NATARAJA and R. N. KONAR, Induction of embryoids in reproductive	707
and vegetative tissues of Ranunculus sceleratus L. in vitro	/0/
G. J. NIEMANN, The effect of phenylserine and related compounds on the	
indoleacetic acid oxidase activity of cucumber hypocotyl and root	415
extracts	415
G. J. NIEMANN, A possible mechanism for the increased resistance against	601
fungal attack as a consequence of root injury	081
G. J. NIEMANN, T. GOOSSENS and LIESBETH KASTELEIN, Phenylserine	

111	684
metabolism in cucumber seedlings	
Monthwestern Suria	737
D. OTZEN and A. H. KORIDON Seasonal fluctuations of organic food re-	
serves in underground parts of Cirsium arvense (L.) Scop. and Tussilago	
farfara L	495
A. H. PIETERSE, P. R. BHALLA and P. S. SABHARWAL, Control of gibbosity	
in Lemna Gibba G3 by ethylenediamine-DI-O-hydroxyphenylacetic	
in Lemna Gibba G3 by ethylenediamine-D1-O-nydroxyphenymeette	521
acid (EDDHA)	341
A. H. PIETERSE, P. R. BHALLA and P. S. SABHARWAL, Chemical induction of	001
Illions III Wolling Horidana (3. D. Sinten)	901
H. B. A. PRINS, The effect of DCMU on ion uptake and photosynthesis in	
leaves of Vallisneria spiralis L	813
H. RIETEMA, Life-histories of Bryopsis plumosa (Chlorophyceae, Cauler-	
pales) from European coasts	859
A. S. Rodrigues Pereira, The effect of CCC on growth and endogenous	
growth substances in Wedgwood Iris	895
J. VAN ROODEN, L. M. A. AKKERMANS and R. VAN DER VEEN, A study on	
	257
A. C. DE ROON, New species of Marcgravia (Marcgraviaceae) from	201
	799
Venezuela	
, 1	197
R. A. Samson and Tariq Mahmood, The genus Acrophialophora (Fungi,	
Moniliales)	804
CLAUDE SASTRE, Recherche sur les ochnacees. IV. Sauvagesia tafelbergensis	
Sastre sp. nov. du Suriname	700
A. S. SAXENA and K. G. MUKERJI, Fungi of Delhi. XIV. Imperfect state of	
Kernia geniculotricha	49
A. S. SAXENA and K. G. MUKERJI, Fungi of Delhi XV. Lophotrichus	
indicus sp. nov.	722
A. SMIT and T. A. WIJMSTRA, Application of transmission electron micro-	
	867
J. L. VAN SOEST, New Taraxacum taxa from Asia	24
C. J. P. SPRUIT and C. W. RAVEN, Regeneration of protochlorophyll in dark	24
11: 0 11 1 111 1	165
~ ~	165
A A STERN Pumpy angiography in South A fries	509
A. A. STERK, Rumex angiocarpus in South Africa	285
A. A. STERK and D. O. WIJNANDS, On the variation in the flower heads of	
Aster tripolium L. in the Netherlands	436
A. A. STERK, Reduction of the androecium in Spergularia marina (Caryo-	
phyllaceae)	488
PH. STOUTJESDIJK, Some measurement of leaf temperatures of tropical and	
temperate plants and their interpretation	373
PH. STOUTJESDIJK, A note on vegetation temperatures above the timber line	
in Southern Norway	918

INEKE STULEN, Interference of NADH with the reaction on nitrite in nitrate	
reductase estimation	425
J. B. THOMAS, H. LOGTENBERG, and H. SCHOONMAN, Aerobic photo-	123
bleaching of Vischeria stellata	781
J. TROMP, Shoot orientation effects on growth and flower-bud formation	701
in apple	535
BLANKA ÚLEHLOVÁ, An ecological study of aquatic habitats north-west	333
Overijssel, the Netherlands	830
R. VAN DER VEEN, The importance of the red-far red Antagonism in photo-	050
blastic seeds	809
J. W. VEENBAAS-RIJKS, Sesquicillium parvulum nov. sp.,	323
J. VAN DER VEER, Ankylonoton luteum (Chrysophyta), a new species from	323
the Tamar Estuary, Cornwall	616
H. A. M. A. DE VRIES, Rapid examination of cutin acids by gas liquid chro-	010
matography	36
	41
J. L. VAN WENT, The ultrastructure of the synergids of Petunia	
J. L. VAN WENT, The ultrastructure of the egg and central cell of Petunia .	
J. L. VAN WENT, The ultrastructure of the fertilized embryo sac of Petunia	
H. WINTER, S. SPAANDER and P. K. WIERSEMA, The relation between	
cellulose synthesis and an unidentified glucose-complex in Pea stem	
segments	525
M. E. Younis and A. A. Suleiman, Experimental studies on plant metabo-	
lism. I. Effects of ammonium sulphate either alone or fortified with	
phosphorus and carbon sources on respiration and metabolic changes in	
potato slices	686
M. E. Younis, A. E. Younis and M. A. Gabr, Studies on the effect of cer-	
tain enzymic poisons on the metabolism of storage organs. VII. The	
effect of iodoacetate on the metabolism of nitrogen compounds by	
radish root slices	201
Tudibility of Silver 1 and 1 a	
Meetings of the Royal Botanical Society of the Netherlands 112,	454
Book reviews	926

